We claim:

1. A semiconductor optical device comprising:

an active waveguide having a tapered portion; and

a passive waveguide extending beyond the end of the active waveguide and optically coupled to the tapered portion of the active waveguide, the passive waveguide beyond the end of the active waveguide supporting an optical mode of larger size than the optical mode supported by the active waveguide,

wherein the tapered portion of the active waveguide is truncated and the active waveguide and the passive waveguide have a separation greater than 0.2μm.

2. A semiconductor optical device according to claim 1, wherein the separation between the active waveguide and the passive waveguide is at least 0.3μm.

3. A semiconductor optical device according to claim 1, wherein the separation between the active waveguide and the passive waveguide is at least 0.4μm.

4. A semiconductor optical device according to claim 1, wherein the

separation between the active waveguide and the passive waveguide is at least 0.5μm.

5. A semiconductor optical device according to claim 1, wherein the separation between the active waveguide and passive waveguide provides a coupling loss between the active waveguide and the passive waveguide which is at most one of 0.1dB, 0.2dB and 0.5dB above the minimum coupling loss for a device having the same construction except with an optimum separation between the active waveguide and passive waveguide which minimizes the coupling loss between the active waveguide and the passive waveguide.

6. A semiconductor optical device according to claim 1, wherein the separation between the active waveguide and the passive waveguide provides a coupling loss between the active waveguide and the passive waveguide which is at least 0.1dB below the coupling loss which would occur in a device having the same construction except with a separation between the active waveguide and passive waveguide of one of 0.2μm, 0.3μm, 0.4μm and 0.5μm.

7. A semiconductor optical device according to claim 1, wherein the separation between the active waveguide and the passive waveguide is at most one of 2.0μm, 3.0μm and 4.0μm.

8. A semiconductor optical device according to claim 1, wherein the active waveguide comprises at least one layer of active material, the width of at least one layer of active material being tapered in the tapered portion.

9. A semiconductor optical device according to claim 8, wherein the tapered portion of the active waveguide is truncated with a truncation width of one of at least 0.05μm and at least 0.1μm.

10. A semiconductor optical device according to claim 1, wherein the active waveguide comprises active material which is one selected from the group consisting of bulk material and multi-quantum well material.

11. A semiconductor optical device according to claim 1, wherein the active waveguide comprises a single layer of active material.

12. A semiconductor optical device according to claim 11, wherein the single layer of active material has a thickness of at least 0.2μm.

13. A semiconductor optical device according to claim 1, wherein the passive waveguide comprises at least one layer overlapping the tapered portion of the active waveguide and extending beyond the active waveguide.

14. A semiconductor optical device according to claim 13, wherein at least one layer of the passive waveguide extends along the entire length of the active waveguide.

15. A semiconductor optical device according to claim 1, wherein the passive waveguide comprises a single layer of passive material.

16. A semiconductor optical device according to claim 1, wherein the semiconductor chip has a base material comprising In and P

17. A semiconductor optical device according to claim 1, wherein the semiconductor optical device is a semiconductor optical amplifier.

18. A semiconductor optical device comprising:

an active waveguide having a tapered portion; and

a passive waveguide extending beyond the end of the active waveguide and optically coupled to the tapered portion of the active waveguide, the passive waveguide beyond the end of the active waveguide supporting an optical mode of larger size than the optical mode supported by the active waveguide,

wherein the tapered portion of the active waveguide is truncated and the separation between the active waveguide and the passive waveguide provides a

coupling loss between the active waveguide and the passive waveguide which is at most 0.1dB above the minimum coupling loss provided by a device having the same construction except with an optimum separation between the active waveguide and passive waveguide which minimizes the coupling loss between the active waveguide and the passive waveguide.

19. A semiconductor optical device according to claim 18, wherein the separation between the active waveguide and the passive waveguide provides a coupling loss between the active waveguide and the passive waveguide which is at most 0.2dB above the minimum coupling loss provided by the optimum separation.

20. A semiconductor optical device according to claim 18, wherein the separation between the active waveguide and the passive waveguide provides a coupling loss between the active waveguide and the passive waveguide which is at most 0.5dB above the minimum coupling loss provided by the optimum separation.

21. A semiconductor optical device according to claim 18, wherein the active waveguide comprises at least one layer of active material, the width of at least one layer of active material being tapered in the tapered portion.

22. A semiconductor optical device according to claim 21, wherein the tapered portion of the active waveguide is truncated with a truncation width of one of at least 0.05μm and at least 0.1μm.

23. A semiconductor optical device according to claim 18, wherein the active waveguide comprises a single layer of active material.

24. A semiconductor optical device according to claim 23, wherein the thickness of the layer of active material is at least 0.2μm.

25. A semiconductor optical device according to claim 18, wherein the passive waveguide comprises at least one layer overlapping the tapered portion of the active waveguide and extending beyond the active waveguide.

26. A semiconductor optical device according to claim 25, wherein at least one layer of the passive waveguide extends along the entire length of the active waveguide.

27. A semiconductor optical device according to claim 18, wherein the passive waveguide comprises a single layer of passive material.

28. A semiconductor optical device according to claim 18, wherein the semiconductor chip has a base material comprising In and P

29. A semiconductor optical device according to claim 18, wherein the semiconductor optical device is a semiconductor optical amplifier.

30. A semiconductor optical device according to claim 19, wherein the active waveguide comprises active material which is one selected from the group consisting of bulk material and multi-quantum well material.